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| 10/522,578 | 01/23/2006 | Alain Pouchelon | PLAS-029 | 9250 |
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| JAMES C. LYDON | | | EXAMINER | |
| 100 DAINGERFIELD ROAD | | | LOEWE, ROBERT S | |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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|------------------------------|--------------------------------------|---|
| Office Action Summary | Application No. 10/522,578 | Applicant(s) POUCHELON ET AL. |
| | Examiner ROBERT LOEWE | Art Unit 1796 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If no period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 06 October 2008.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 25-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 25-32 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 06 October 2008 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1668)
 Paper No(s)/Mail Date 10/6/08; 11/5/08
- 4) Interview Summary (PTO-413)
 Paper No(s)/Mail Date. _____
- 5) Notice of Informal Patent Application
- 6) Other: _____

DETAILED ACTION

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Interpretation

The limitation "under pressure" of independent claims 25 and 32 in its broadest reasonable interpretation may be interpreted as atmospheric pressure. Any coating technique carried out in the laboratory at the very least is carried out at atmospheric pressure (i.e., a positive pressure).

The limitation "impregnated right to the core" will be interpreted simply as "impregnated". It is unclear what "right to the core" means. Additionally, Applicant's have not supplied a working definition for this phrase.

Instant claim 32 appears to be written in Jepson type format. Drafting a claim in Jepson format (i.e., the format described in 37 CFR 1.75(e); see MPEP § 608.01(m)) is taken as an implied admission that the subject matter of the preamble is the prior art work of another. See MPEP 2129 (III). Further, as written, the curing time and curing temperature are not required process steps of claim 32. The compositions of the prior art do not need to be cured at the time and temperature as claimed; they only need to satisfy the limitations of instant claim 32 after being subjected to those conditions.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 30 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specifically, it is unclear what is meant by the limitation "G is a valency bond". Appropriate correction is required.

Claim Rejections - 35 USC § 102

Claims 25-29, 31 and 32 are rejected under 35 U.S.C. 102(b) as being anticipated by Fujiki et al. (US Pat. 6,387,520; equivalent to EP-1078823 which is cited on the international search report as an "X" reference).

Claims 25, 26 and 32: Fujiki et al. teaches a liquid silicone rubber coating composition applied to an air bag fabric having good infiltration (abstract). Fujiki et al. also teaches a process for coating an airbag which satisfies instant claim 32 (see examples). The composition taught by Fujiki et al. comprises (A) an organopolysiloxane having at least two alkenyl groups, (B) an organohydrogenpolysiloxane having at least two Si-H groups, (C) a platinum-based catalyst, and (D) an adhesive agent/adhesion promoter (abstract). Fujiki et al. further teaches that the organohydrogenpolysiloxane has six Si-H groups (8:40). Fujiki et al. further teaches that the viscosity of the composition before curing is **preferably** from 1,000 to 10,000 cP (1,000 to 10,000 mPa·s), which substantially encompasses the range of instant claim 25. Fujiki et al. explicitly teaches a composition which has a pre-cure viscosity of 4,500 cP (4,500 mPa·s, example 1). In the examples of Fujiki et al., no solvents, diluents, or emulsifiers are present. While Fujiki et al. does not explicitly teach the Shore A hardness, % elongation or tensile

strengths of the cured compositions, it nevertheless follows that Fujiki et al. teaches all of the claimed ingredients. Therefore, the final physical properties of the cured compositions taught by Fujiki et al. would inherently possess a Shore hardness of at least 2, a tensile strength of at least 0.5 N/mm, and an elongation at break of at least 50%. Further, it is well known by a person having ordinary skill in the art that the vast majority of cured silicone compositions would satisfy the physical property requirements of instant claim 13. While Fujiki et al. does not explicitly teach that the polyorganosiloxane coatings may be coated onto substrates under pressure, Fujiki et al. does teach knife coating (8:49-56). It is submitted by the Examiner that a knife coating procedure would inherently apply at least some positive pressure to the substrate. Further, Fujiki et al. explicitly teaches that the compositions display excellent infiltration into the airbag fabric (Table 3).

The composite taught by Fujiki et al. is an air bag having a cured silicon rubber coating. Because Fujiki et al. **explicitly** teaches that the coating composition exhibits good infiltration, it follows that the air bag fabric is impregnated to some extent. Because Fujiki et al. teaches all of the claimed ingredients, and claimed viscosity, it inherently follows that the compositions taught by Fujiki et al. would be capable of impregnating a fibrous material right to the core followed by crosslinking to form a composite having a capillary rise time of less than 20 nm, as required by instant claim 15.

Fujiki et al. teaches that the silicone rubber may be cured at temperatures of 150 to 200 degrees C for up to 3 minutes (8:8-10). While the instant claim requires a 30 minute curing time, such limitation is found in the process portion of product-by-process claim 25. Fujiki et al. explicitly teaches curing which inherently means that a crosslinked silicone rubber is formed.

Since Fujiki et al. also teaches good penetration of the silicone rubbers to the airbag fabric, it follows that the final cured system can be described as a composite in which the airbag fabric is embedded in a silicone matrix, as required by instant claim 25.

Claim 27: Fujiki et al. further teaches that the organopolysiloxane satisfies the structural limitations of instant claim 27 (2:24-3:28).

Claim 28: Fujiki et al. further teaches that the organohydrogenpolysiloxane satisfies the structural limitations of instant claim 28 (3:29-4:24).

Claim 29: Fujiki et al. further teaches that the mol ratio of the Si-H groups to all of the alkenyl groups in the composition is from 0.9 to 20, preferably from 0.9 to 5, which substantially encompasses the range of instant claim 29 (7:11-17).

Claim 31: Fujiki et al. further teaches an adhesion promoter (5:40-6:39), which can be added in amounts which satisfy the range of instant claim 31 (7:6-8 and example 1).

Claim Rejections - 35 USC § 103

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fujiki et al. (US Pat. 6,387,520; equivalent to EP-1078823 which is cited on the international search report as an "X" reference) as applied to claim 13 above, further in view of Lorenzetti et al. (US Pat. 5,658,674).

Fujiki et al. teaches the composition of instant claim 25, as described above. Fujiki et al. does not teach that the adhesion promoter comprises vinyltrimethoxysilane, 3-glycidoxypropyltrimethoxysilane and *tert*-butyl titanate. However, Lorenzetti et al. does teach an adhesion promoter composition consisting of the above three ingredients (4:33-35). Fujiki et al. and Lorenzetti et al. are combinable because they are from the same field of endeavor, namely, curable silicone compositions which are used to coat airbags. At the time of the invention, it would have been obvious to a person having ordinary skill in the art to employ the adhesion promoter combination of Lorenzetti et al. into the silicone compositions as taught by Fujiki et al. and would have been motivated to do so because Lorenzetti et al. teaches that the above combination of adhesion promoters yields exceptionally high performance levels in bonding to supports, such as airbags (2:66-3:4).

Claims 25-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lorenzetti et al. (US Pat. 5,658,674) in view of Fujiki et al. (US Pat. 6,387,520; equivalent to EP-1078823 which is cited on the international search report as an "X" reference).

Lorenzetti et al. teaches a low-temperature curable polysiloxane composition comprising components (a), (b), (c), (d), (e), (f) and (g) of instant claim 13 (1:66-2:11; 2:40-62 and claims 1). Lorenzetti et al. also teaches a process for coating an airbag which satisfies instant claim 32

(see examples). Lorenzetti et al. further teaches that components (a) and (b) of instant claim 25 further satisfy the limitations of instant claims 27-29 (claims 10-12 of Lorenzetti et al.).

Lorenzetti et al. further teaches all of the claimed limitations of the adhesion promoter (claims 25, 30 and 31 of Lorenzetti et al.). In summary, Lorenzetti et al. substantially teaches all of the claimed ingredients and amounts of the instant claims. Lorenzetti et al. further teaches coating the substrates using doctor blades or rolls (i.e., roll coating) (10:11-15). Such coating techniques inherently apply pressure to the substrate.

The only differences between the instant application as claimed and Lorenzetti et al. is the claimed viscosity range of instant claim 25 and the silence of a coating pressure of Lorenzetti et al. Lorenzetti et al. does not teach that the viscosity fall into the range of instant claim 25; rather Lorenzetti et al. teaches that the viscosity of the precured compositions be at least 10,000 mPa·s (8:13-15). However, Fujiki et al. teaches a curable organopolysiloxane composition having a pre-cured viscosity of preferably 1,000 to 10,000 mPa·s, with an explicit teaching of a curable composition having a viscosity of 4,500 mPa·s (8:47-48). Lorenzetti et al. and Fujiki et al. are combinable because they are from the same field of endeavor, namely, curable silicone compositions which are used to coat airbags. At the time of the invention, it would have been obvious to a person having ordinary skill in the art to lower the pre-cured viscosity to within the range as taught by Fujiki et al. and use such viscosities in the compositions taught by Lorenzetti et al. and would have been motivated to do so because Fujiki et al. teaches that the curable composition does not require solvent and provides improved infiltration, adhesion and coating ability on a fabric such as an air bag fabric (8:11-16). Further, Fujiki et al. teaches that the pre-cured polysiloxane compositions most preferably have a viscosity which satisfies the limitation

of instant claim 25 so as to improve blending and film-strength (3:16-22). Improved penetration of the pre-cured compositions of Lorenzetti et al. would be a desirable property given the teachings of Fujiki et al.

Because Lorenzetti et al., in view of Fujiki et al., teach all of the claimed ingredients, it inherently follows that the compositions taught by Lorenzetti et al. would be capable of impregnating a fibrous material right to the core followed by crosslinking to form a composite having a capillary rise time of less than 20 nm, as required by instant claim 25.

Relevant Art Cited

The prior art made of record and not relied upon but is considered pertinent to applicants disclosure can be found on the attached PTO-892 form.

Response to Arguments

The obvious double-patenting rejections made in the previous Office actions have been removed since Applicants newly presented claims are to a composite having at least one fibrous support, while the previously presented claims were drawn to a silicone composition.

Applicant's arguments have been fully considered and are not found to be persuasive. First, Applicants argue that the Fujiki et al. does not teach that the silicone composition penetrates the fibrous support under pressure. However, as stated above, atmospheric pressure satisfies the limitation of "under pressure". Moreover, Fujiki et al. explicitly teaches knife coating. The technique of knife coating requires the addition of pressure at the point where the substrate and coating material pass "under" or "through" the portion where the knife is present.

The thickness becomes fixed at this point and the knife forces extra coating material to be removed from the substrate. This clearly results in an applied pressure. Even more important, Fujiki et al. states that "when the liquid silicone rubber composition is applied to an air bag base fabric of synthetic fibers, the liquid fully infiltrates into the base fabric and provides a uniform thin coating." This clearly teaches that the air bag fabric is coated with the curable silicone rubber composition right to the core. Once crosslinked, a composite according to the instant claims would be formed. Therefore, Fujiki et al. satisfies that the coating composition be applied under pressure and further satisfies the composite of the instant claims. Fujiki et al. further teaches the claimed viscosity range and claimed ingredients which would inherently satisfy the capillary rise time requirements of the instant claims. A chemical composition and its properties are inseparable. Therefore, if a prior art reference teaches the same composition and/or process, then any physical/chemical properties claimed which is not explicitly taught in the prior art reference would be met.

Applicant's arguments on page 15 are not based on the claimed subject matter and are not persuasive. For example, steps 3 (A), (B) and (C) are not claimed.

Applicants further argue that Lorenzetti et al. does not teach impregnating a fibrous support by having a silicone composition penetrate into the support under pressure. However, Lorenzetti et al. explicitly teaches that the silicone compositions may be applied to the fibrous substrates using doctor blades and roll coating. These well-known coating techniques, like knife coating, also involve pressure. For instance, US Pat. 5,755,883 teaches a roll coating device and further teaches that the thickness of coated films may be adjusted by varying the pressure between the coating liquid transferring roll and the coating device (4:53-56). Further, roll

coating is also taught by the Applicants as a suitable means of coating. Therefore, Lorenzetti et al., like Fujiki et al. teach that the coating process is performed under pressure.

Last, instant claim 25 is a product-by-process claim. For product-by-process claims, patentability is based on the product itself. So while Fujiki et al. may not explicitly teach an applied pressure, Fujiki et al. teaches all of the claimed ingredients. The burden is on Applicant's to show that the compositions of Fujiki et al. would not satisfy the limitations of instant claim 1, namely, those limitations regarding capillary rise time.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ROBERT LOEWE whose telephone number is (571)270-3298. The examiner can normally be reached on Monday through Friday from 5:30 AM to 3:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on (571) 272-13021302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/R. L./
Examiner, Art Unit 1796
12-Nov-08

/Randy Gulakowski/
Supervisory Patent Examiner, Art Unit 1796